

1/13

FIG. 1

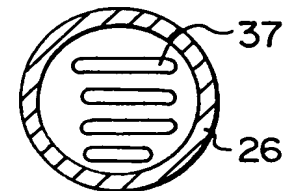
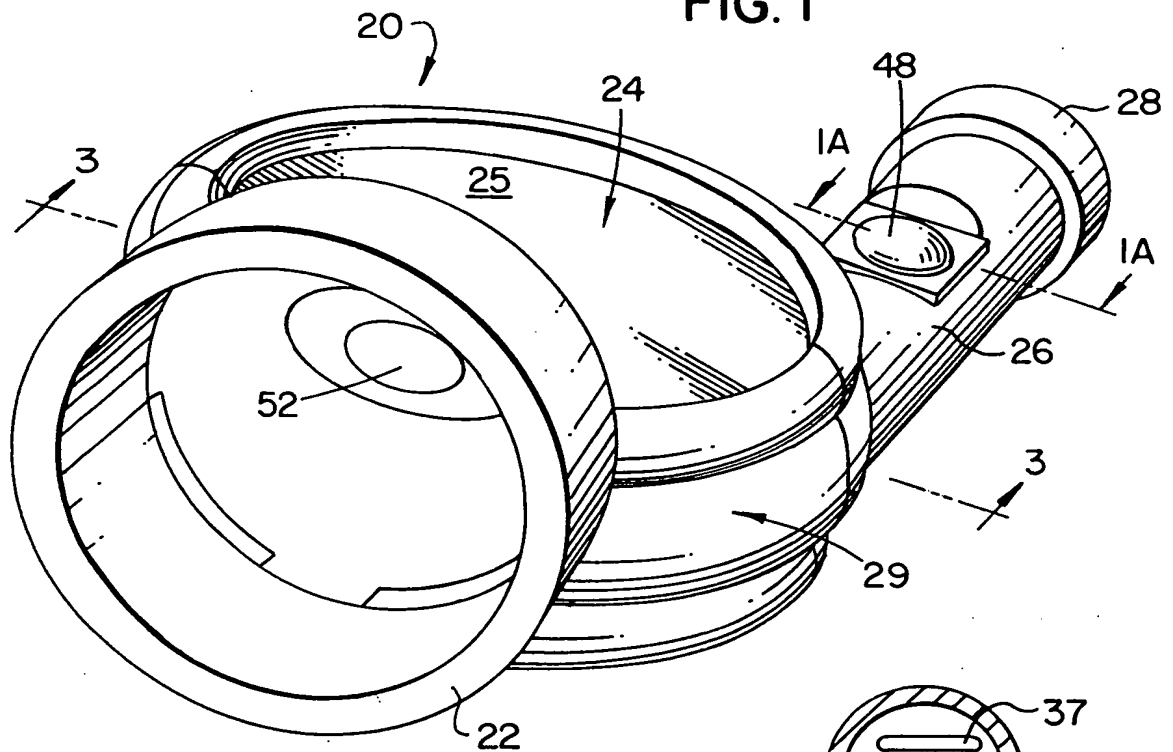


FIG. 1A

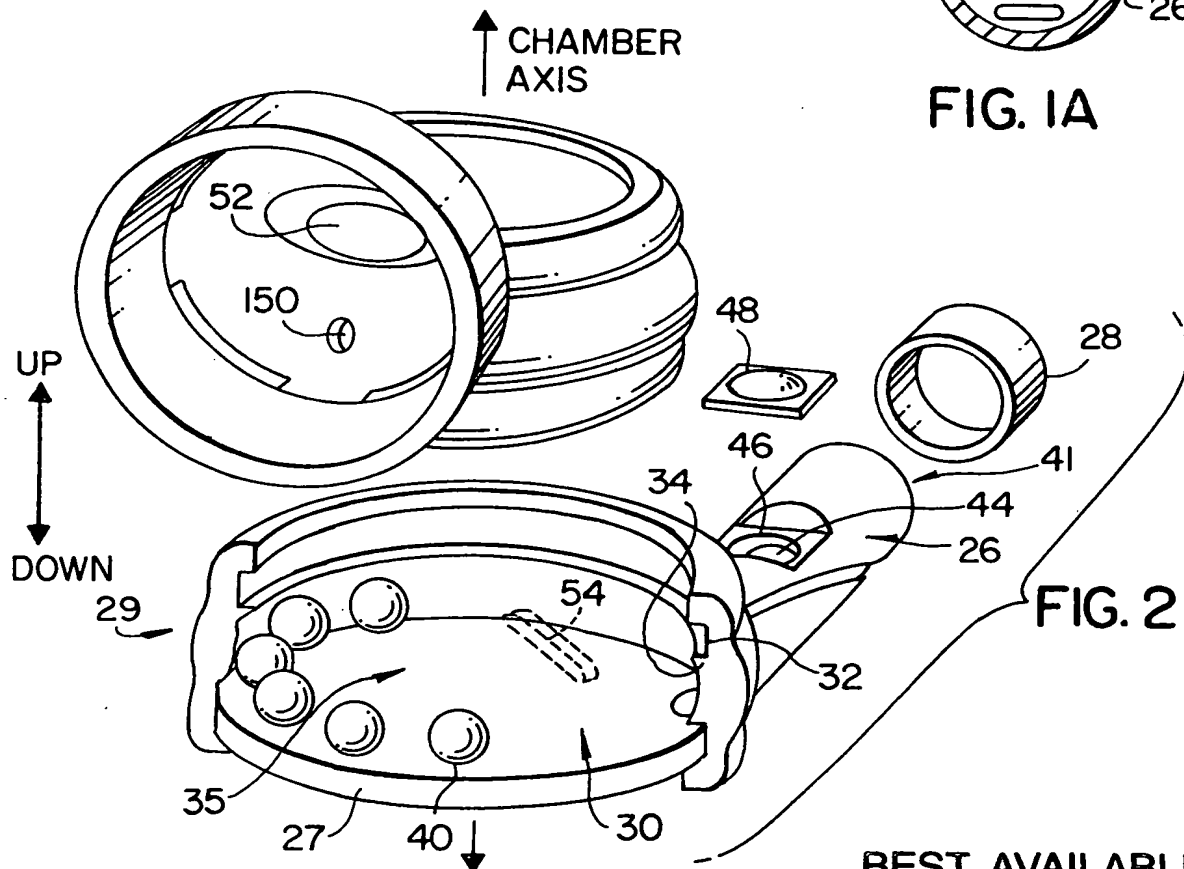


FIG. 2

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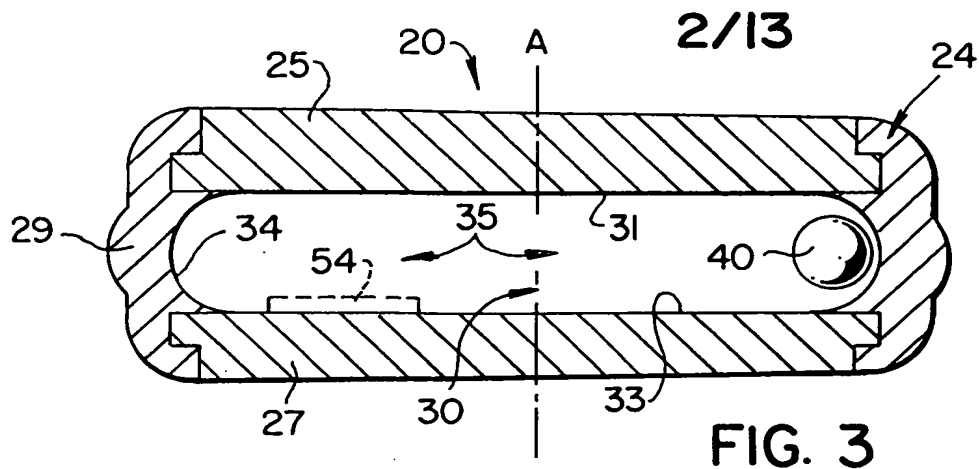


FIG. 4

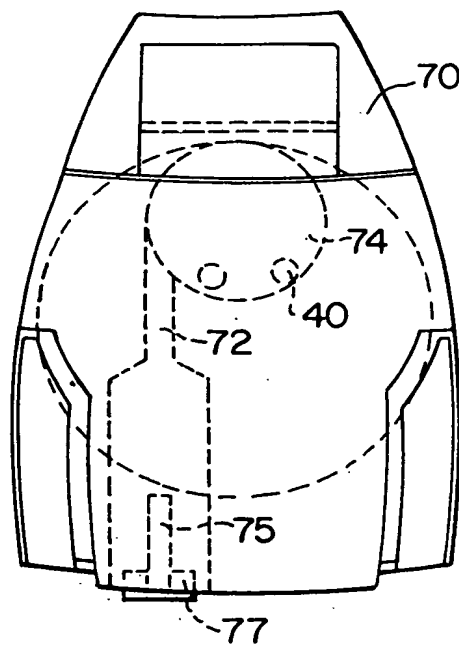
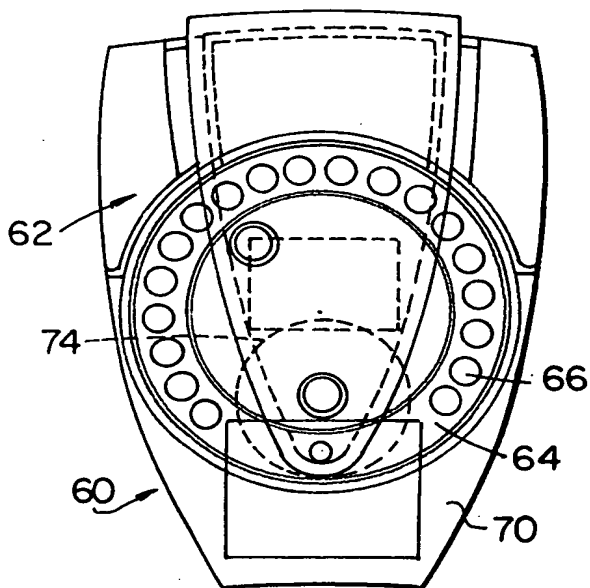


FIG. 7

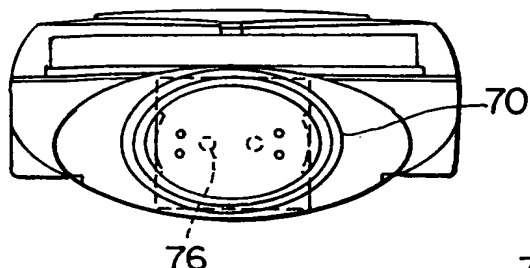


FIG. 5

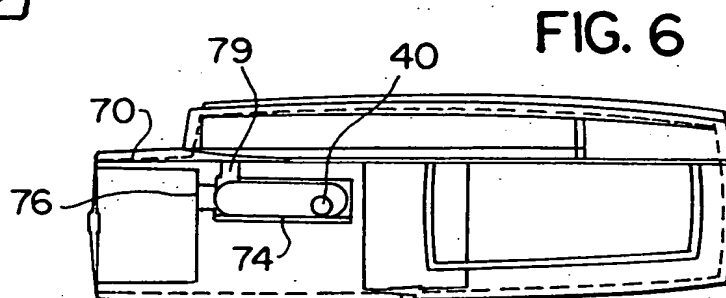
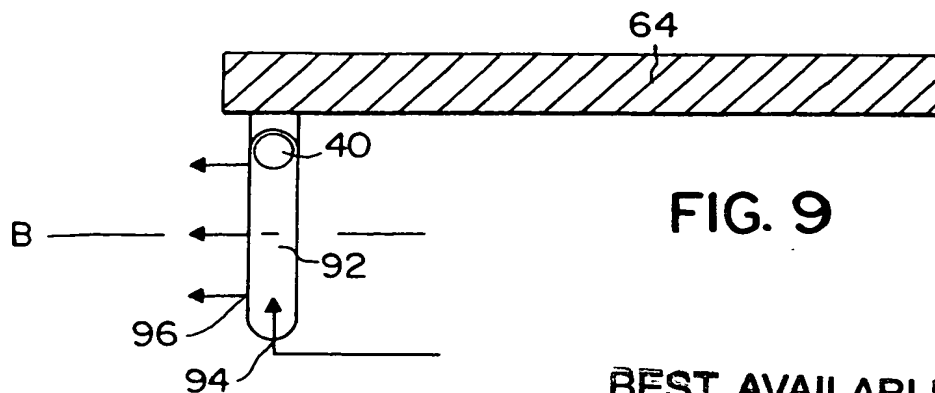
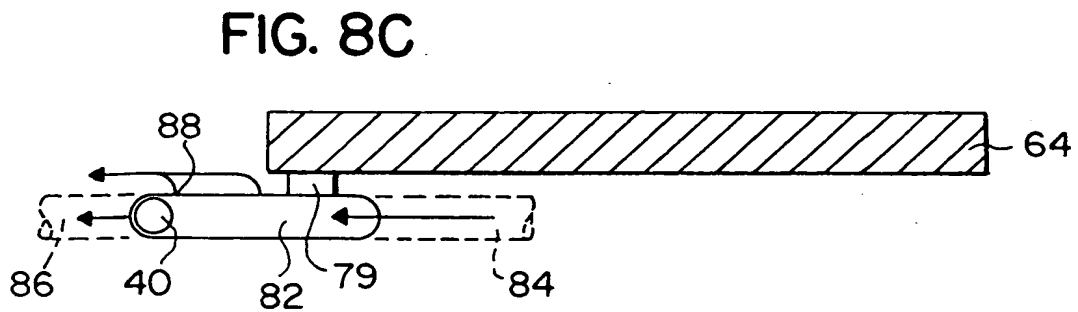
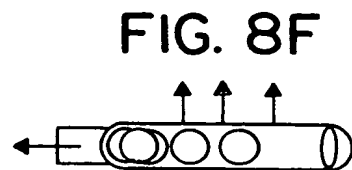
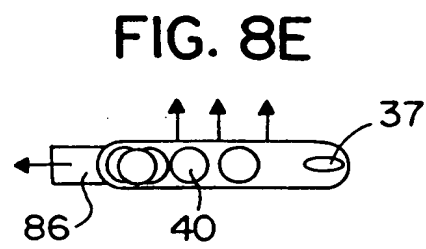
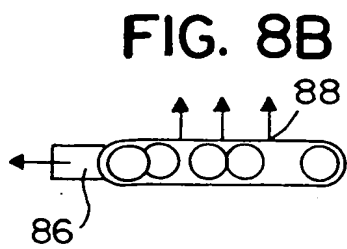
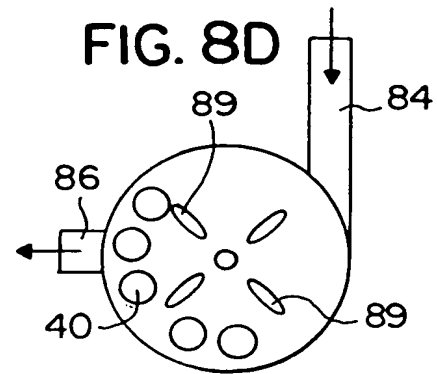
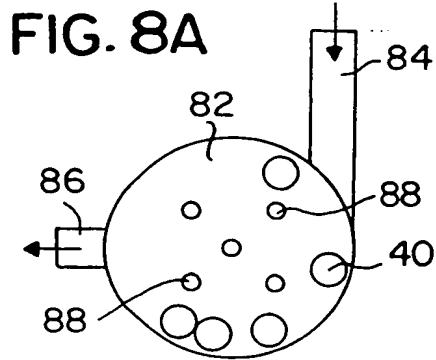


FIG. 6

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FIG. 10A

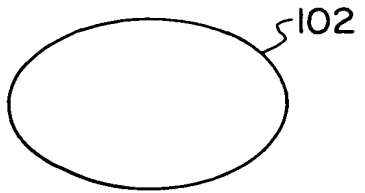


FIG. 10B

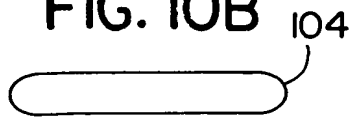


FIG. 11A

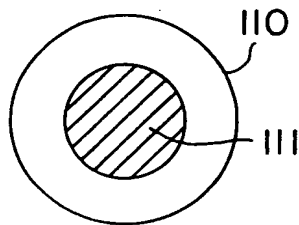


FIG. 11B

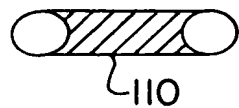


FIG. 12A

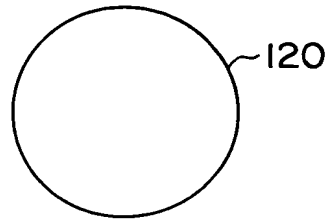


FIG. 12B

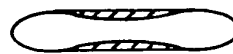


FIG. 13A

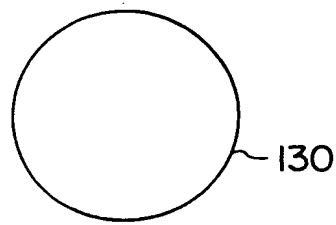


FIG. 13B

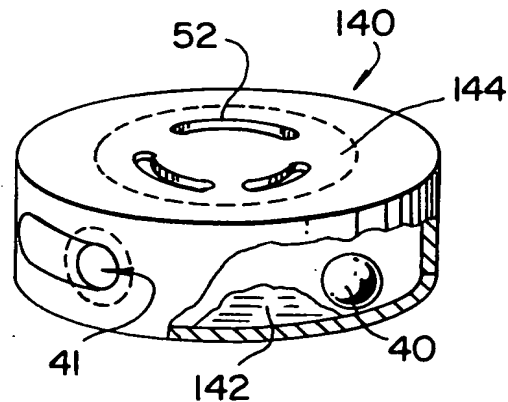
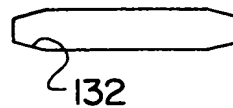


FIG. 14

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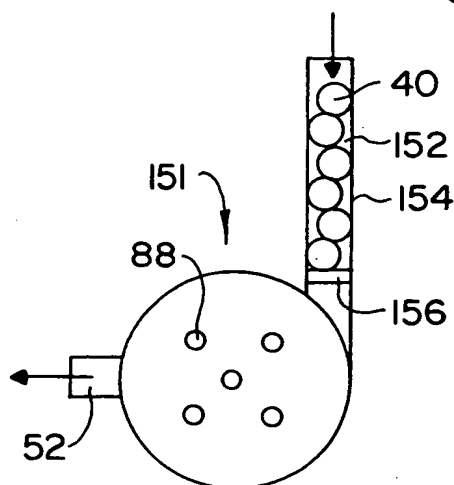


FIG. 15A

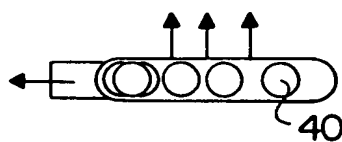


FIG. 15B

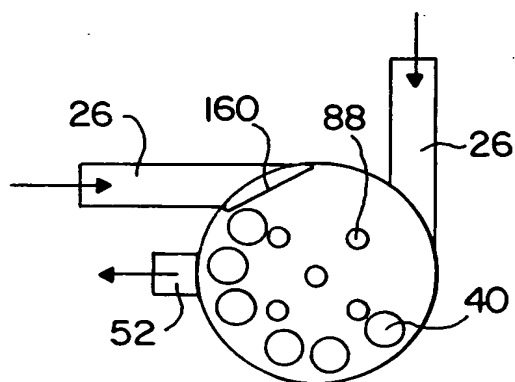


FIG. 16A

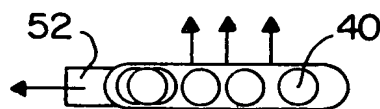


FIG. 16B

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TABLE WITH RESISTANCE DATA (MS EXCEL PICTURE):

TABLE: NUMBER OF BEADS VERSUS INHALER RESISTANCE TO AIR FLOW		
AIR FLOW RESISTANCE (cmH2O ^{0.5} /Lpm)		
NUMBER OF BEADS	ONE-JET INHALER	TWO-JET INHALER
0	1.08	0.73
1	0.92	
2	0.83	0.53
3	0.79	
4	0.76	
5	0.75	
6	0.74	0.44
10	0.72	
11	0.72	
*12	0.67 TO 1.7	

*RESISTANCE MEASUREMENTS FLUCTUATE WHEN 12 OR MORE BEADS ARE USED;
THIS IS SHOWN BY THE DASHED LINE IN THE FIGURE

FIG. 17

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FIGURE WITH RESISTANCE DATA (MS EXCEL PICTURE):

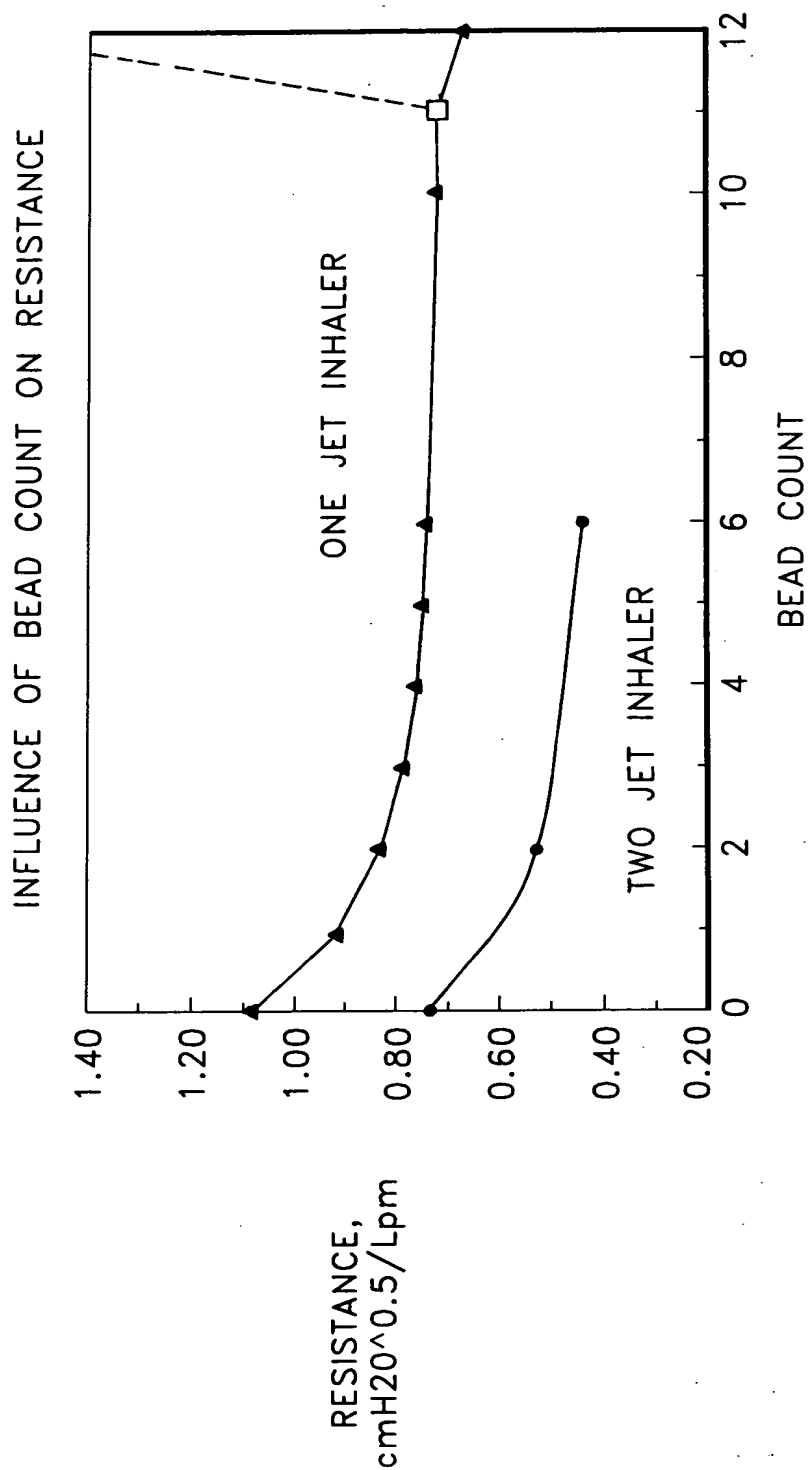


FIG. 18

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AEROSOL PERFORMANCE DATA WITH DRY POWDER FORMULATION
OF BUDESONIDE AND LACTOSE

INHALER MODEL	MODEL 1	MODEL 2	MODEL 3
TESTED WITH MOUTHPIECE	NO	YES	YES
NUMBER OF AIR JETS IN MODEL	2	1	2
TOTAL AIR FLOW, Lpm	15	15	28
BEAD CHAMBER AIR FLOW (APPROX.), Lpm	15	9	16
AIR-FLOW PRESSURE DROP, cmH ₂ O	44	24	51
RESISTANCE, cmH ₂ O ^{0.5} /Lpm	0.44	0.33	0.25
RESPIRABLE FRACTION, FIRST SAMPLE, %	36.2	43.1	43.6
RESPIRABLE FRACTION, SECOND SAMPLE, %	34.0	43.2	43.3
RESPIRABLE FRACTION, THIRD SAMPLE, %	37.5	43.9	43.9
RESPIRABLE FRACTION, FOURTH SAMPLE, %	37.5	41.2	47.8
RESPIRABLE FRACTION (AVERAGE), %	36.3	42.9	44.7
RESPIRABLE FRACTION, STANDARD DEVIATION, %	1.7	1.2	2.1

FIG.19

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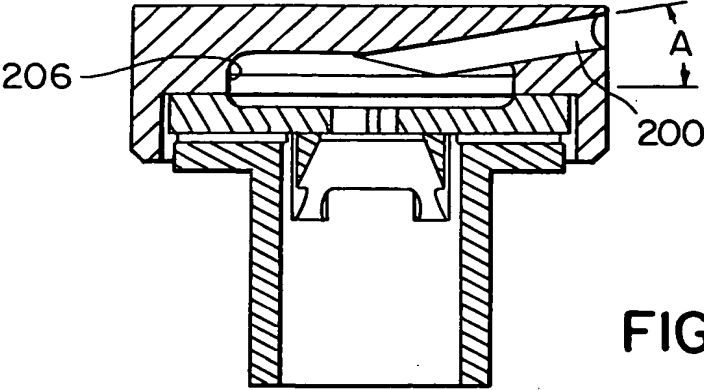
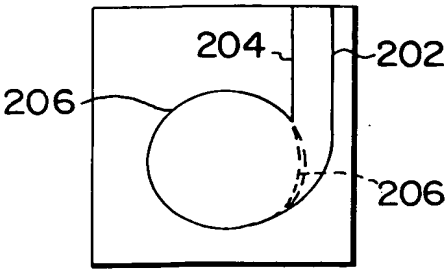
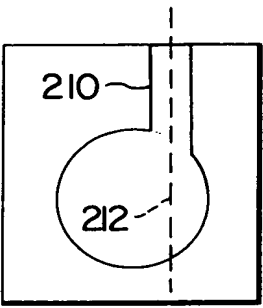


FIG. 20

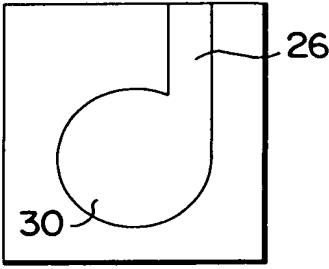
FIG. 21



SCOOP
JET



CHORDED
JET



TANGENT
JET

FIG. 22

FIG. 23

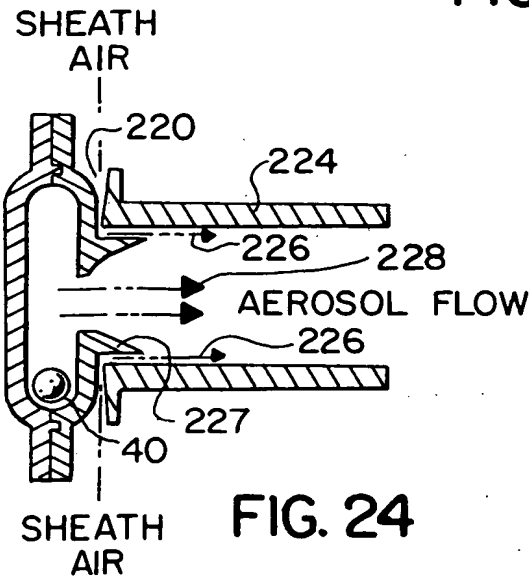
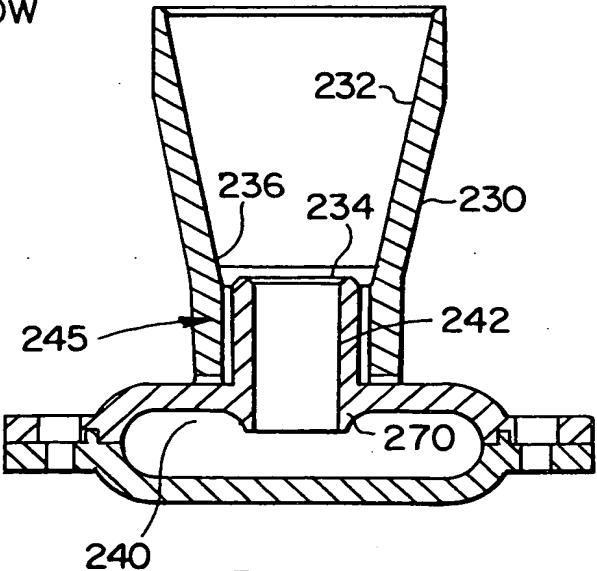


FIG. 24

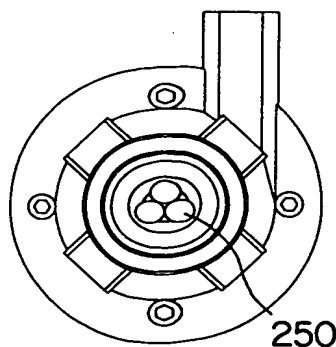
FIG. 25



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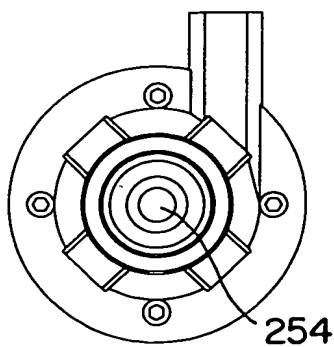
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26, 210, 204



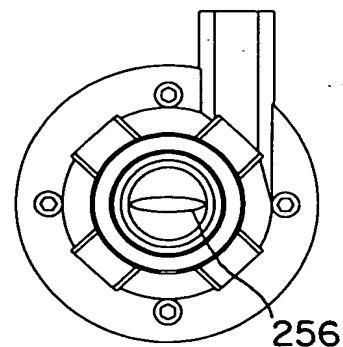
3 OUTLET
HOLES

FIG. 26



SINGLE
OUTLET HOLE

FIG. 27



SLOTTED
OUTLET HOLE

FIG. 28

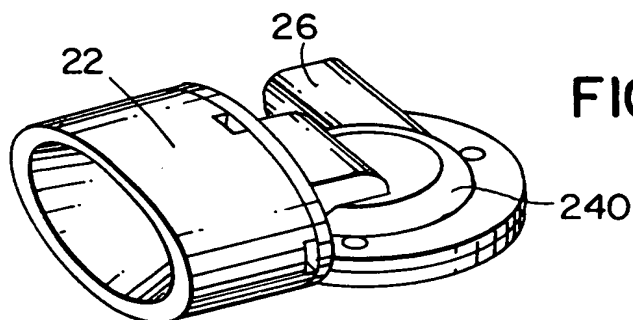


FIG. 29

FIG. 31

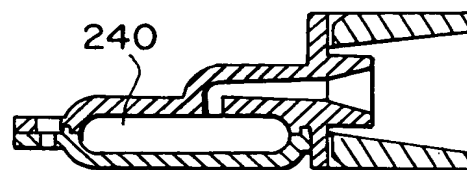
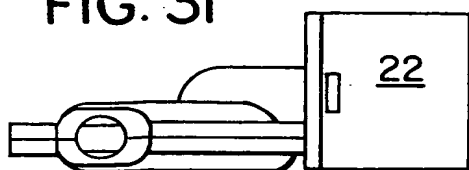


FIG. 32

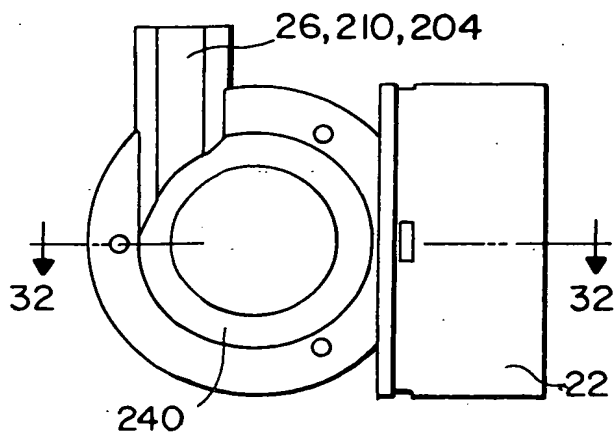


FIG. 30

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FIG. 33

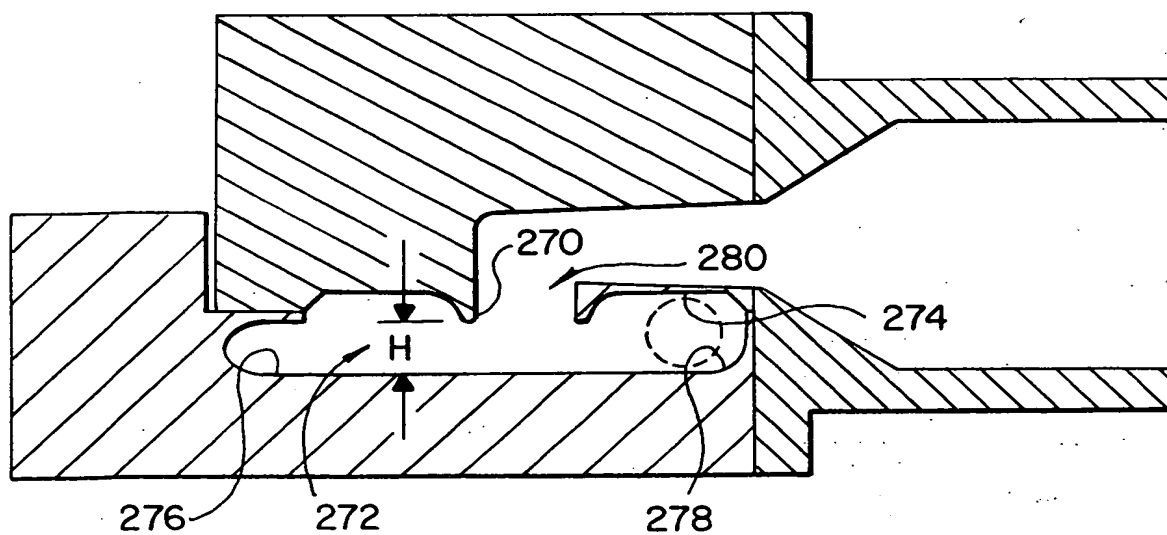
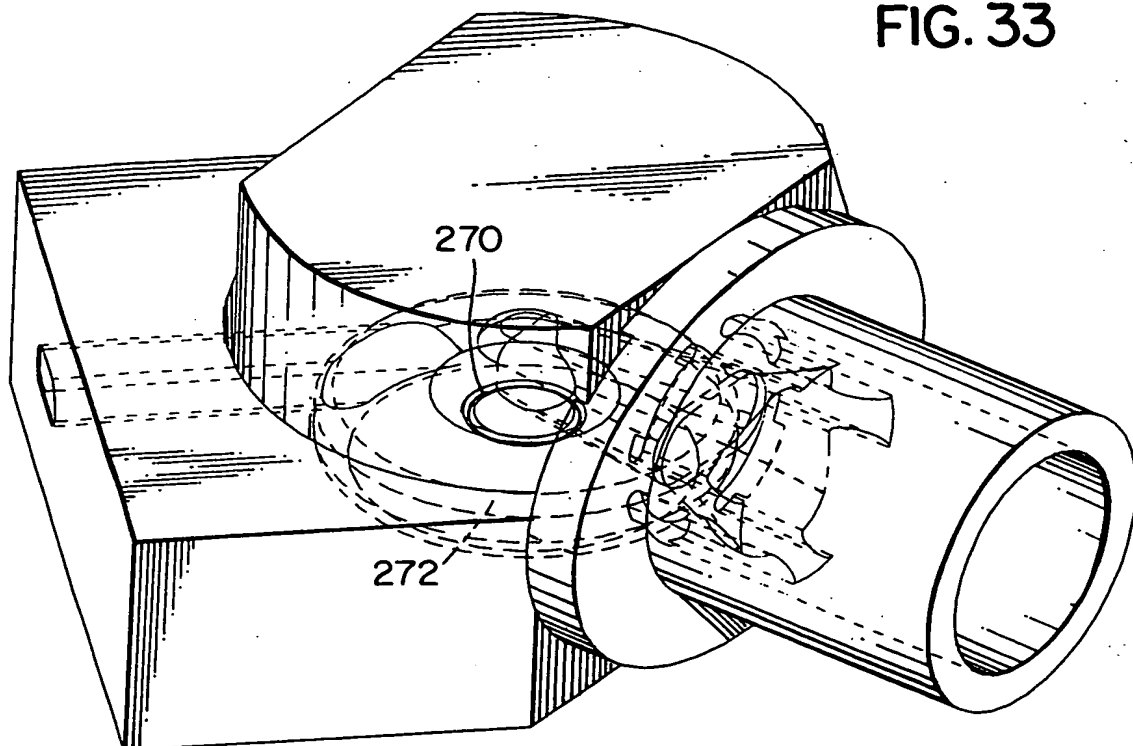


FIG. 34

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FIG. 35

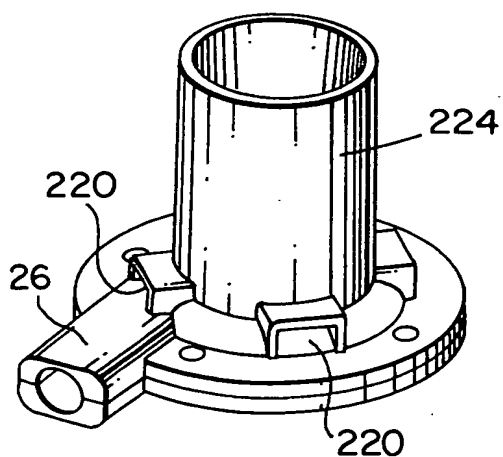
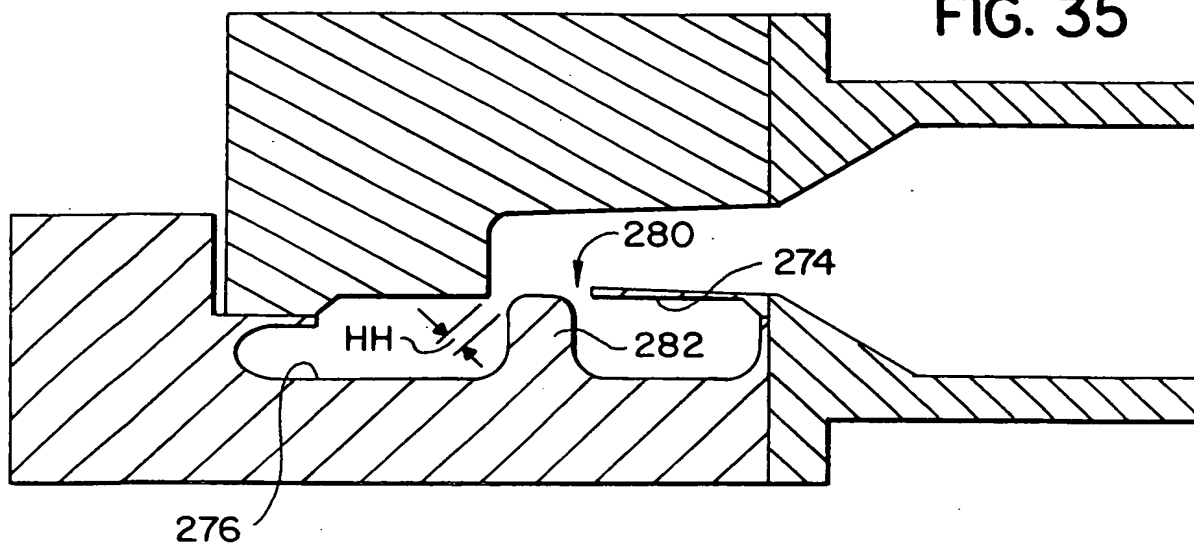


FIG. 36

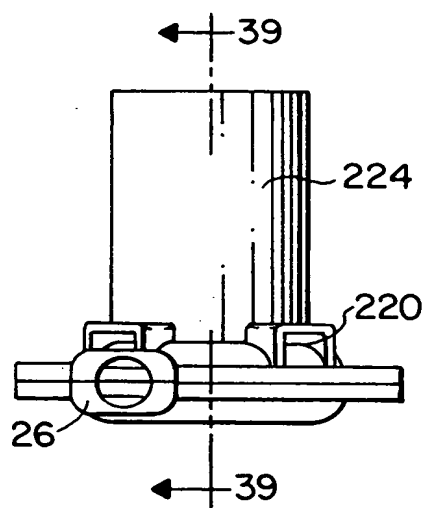


FIG. 37

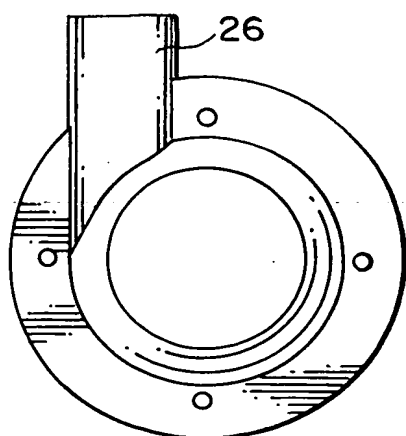


FIG. 38

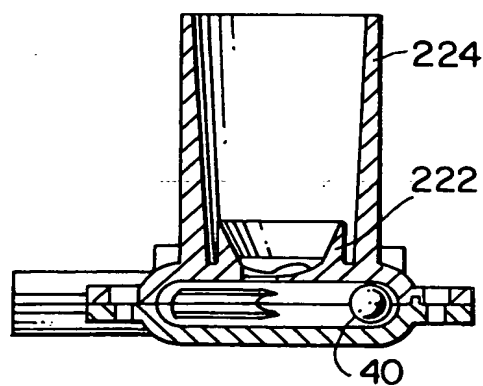


FIG. 39

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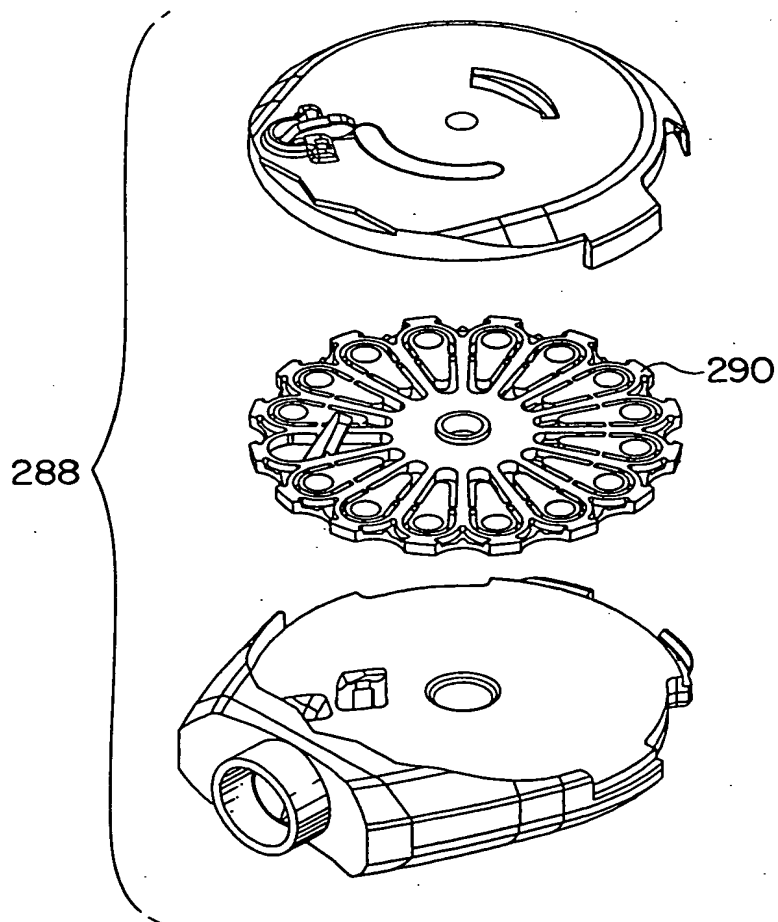


FIG. 40